Shaughnessy Number: 109901

Date Out of EFGWB: SEP 19 1989

TO: D. Stubbs/L. Pemberton
Product Manager 41
Registration Division (H7505C)

FROM: W. Martin Williams, Hydrologist
Ground-Water Technology Section
Environmental Fate & Ground-Water Branch/EFED (H7507C)

THRU: Henry Jacoby, Chief (Acting)
Environmental Fate & Ground-Water Branch/EFED (H7507C)

Attached, please find the EFGWB review of:

Reg./File #: 88-AZ-03

Chemical Name: Triadimefon

Type Product: Fungicide

Company Name: Mobay Corporation

Purpose: Evaluate ground-water concerns for crisis exemption under FIFRA Section 18 for use on tomatoes in Arizona.

Date Received: not given

ACTION CODE: 510

Date Completed: 9/15/89

EFGWB #(s): 80780

Monitoring study requested: ____

Total Review Time: 1 day

Monitoring study voluntarily: ____

Deferrals To:

____ **Biological Effects Branch**

____ **Science Integration & Policy Staff, EFED**

____ **Non-Dietary Exposure Branch, HED**

____ **Dietary Exposure Branch, HED**

____ **Toxicology Branch, HED**

REGISTRATION DIVISION DATA REVIEW RECORD

Confidential Business Information – Does Not Contain National Security Information (E.O. 12065)

5/19/88

4/6 #88 Hoc

1. CHEMICAL NAME: Triadimefon

2. IDENTIFYING NUMBER	3. ACTION CODE	4. ACCESSION NUMBER
88-AZ-03	510	

TO BE COMPLETED BY PM

5. RECORD NUMBER: 222359

6. REFERENCE NUMBER:

7. DATE RECEIVED (EPA):

8. STATUTORY DUE DATE:

9. PRODUCT ~~MANAGER~~ (PM): Stubbs / Tompkins

10. PM TEAM NUMBER: 41

14. CHECK IF APPLICABLE

- ☐ Public Health/Quarantine
- ☐ Minor Use
- ☐ Substitute Chemical
- ☐ Part of IPM
- ☑ Seasonal Concern
- ☐ Review Requires Less Than 4 Hours

AH

TO BE COMPLETED BY PCB

11. DATE SENT TO HED/TSS: 5-18-88

12. PRIORITY NUMBER: 6

13. PROJECTED RETURN DATE: 6-3-88

15. INSTRUCTIONS TO REVIEWER

A. HED
- ☐ Total Assessment - 3(c)(5)
- ☐ Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977.

B. SPRD (Send Copy of Form to SPRD PM)
- ☐ Chemical Undergoing Active RPAR Review
- ☐ Chemical Undergoing Active Registration Standards Review

C. ☐ BFSD
D. ☐ TSS/RD
E. ☐ Other

F. INSTRUCTIONS

Please determine if triadimefon's fate in the environment may cause problems for the proposed use

16. RELATED ACTIONS

17. 3(c)(1)(D)
- ☐ Use Any or All Available Information
- ☐ Use Only Attached Data
- ☐ Use Only the Attached Data for Formulation and Any or All Available Information on the Technical or Manufacturing Chemical.

18. REVIEWS SENT TO
- ☐ TB
- ☐ EEB
- ☐ EF
- ☐ PL
- ☐ RCB
- ☑ EFB
- ☐ CH
- ☐ BFSD

19.	To	TYPE OF REVIEW	NUMBER OF ACTIONS: Registration	Petition	EUP	SLN	Sec. 18	Inert	MNR. USE	Other
HED		TOXICOLOGY								
		ECOLOGICAL EFFECTS								
		RESIDUE CHEMISTRY								
	✓	ENVIRONMENTAL FATE								
RD/TSS		CHEMISTRY								
		EFFICACY								
		PRECAUTIONARY LABELING								
BFSD		ECONOMIC ANALYSIS								

20. ☐ Label Submitted with Application Attached

21. ☐ Confidential Statement of Formula

22. ☐ Representative Labels Showing Accepted Uses Attached

23. Date Returned to RD (to be completed by HED)

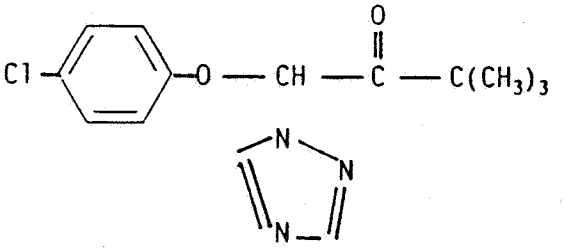
24. Include an Original and 4 (four) Copies of This Completed Form for Each Branch Checked for Review.

EPA Form 8570-13 (Rev. 11-81) PREVIOUS EDITIONS ARE OBSOLETE.

APPLICATION FOR EXEMPTION UNDER FIFRA SECTION 18

1. CHEMICAL:

Chemical name: 1-(4-chlorophonoxy-3,3-dimethyl-1-(1H-1,2,4-trizol-1-yl)-2-butanone
Common name: Triadimefon (Bayleton)
Structure:



2. TEST MATERIAL:

Not Applicable.

3. STUDY/ACTION TYPE:

Review of application for specific exemption in accordance with FIFRA Section 18 to control powdery mildew on tomatoes in Arizona.

4. STUDY IDENTIFICATION:

Letter (not dated) with attachment to Mr. Donald Stubbs, EPA/OPP/RD from Edwin Minch, Commission of Agriculture and Horticulture, Phoenix, Arizona.

Identifying No.:	88-AZ-03
Action Code:	510
Record Number:	222,359
Date Sent to EFED:	not given

5. REVIEWED BY:

W. Martin Williams Signature: W. Martin Williams
Hydrologist
OPP/EFED/EFGWB/Ground-Water Technology Section Date: 9/16/89

6. APPROVED BY:

Patrick W. Holden Signature: Patrick W. Holden
Section Head
OPP/EFED/EFGWB/Ground-Water Technology Section Date: 9/19/89

7. CONCLUSIONS:

1) Baytan, the biological degradation product of Bayleton, has the potential to leach and persist in ground water that is used for drinking water. If leached beyond the root zone, the persistence of Baytan is considerably longer than the 8-9 month aerobic soil metabolism half-life.

2) Repeated applications can result in a build-up of residues in soil and ground water.

2) No persistent chemical is desired outside of its target area - regardless of toxicity. As such, actions to prevent migration into less microbial active environments should be implemented should the subject Specific Exemption be granted.

8. RECOMMENDATIONS:

1) The subject Specific Exemption should not be granted annually to avoid build-up of residues in soil and ground water.

2) Advisory label statements cautioning users should be included in the protocol should the subject Specific Exemption be granted as proposed below:

"This chemical can travel (seep or leach) to ground water that is used for drinking water.

Users are advised to be careful in mixing and handling this chemical to avoid spills.

This product must not be mixed/loaded, or used within 50 feet of sink holes or wells, including abandoned wells and drainage wells."

Do not use in hydrogeologically vulnerable conditions defined as having very permeable (sandy) soils, ground water less than 30 feet, and/or soil conditions conducive to preferential flow conditions (e.g., karst terrain).

Do not over irrigate. Avoid use during periods of heavy rain."

9. BACKGROUND:

Bayleton is a systemic fungicide used against powdery mildew affecting deciduous fruit, cereals and vegetables; azalea petal blight; rust diseases of cereals and coffee; seed grasses and pine; and pineapple disease on sugarcane and pineapple. Formulations include: wettable powder, emulsifiable concentrate, suspension concentrate, and paste.

This Specific Exemption is for use against powdery mildew on tomatoes in Yuma and Lapaz Counties, Arizona.

10. DISCUSSION:

A maximum 700 acres are proposed to be treated under the subject Specific Exemption. A maximum of five ground applications at a rate of 1 to 2.5 ounces a.i. per acre spaced no closer than ten days with a 30 day pre-harvest interval will be made. A maximum 14.2 oz a.i. per acre per year and a maximum total of 53,250 lbs of active ingredient are stated in the protocol.

Bayleton is moderately mobile but relatively non-persistent in the environment as shown in Table 1. The major mode of degradation is aerobic and anaerobic soil metabolism. The only significant products of metabolism are carbon dioxide and Baytan (EAB #5024). Baytan is a separately registered pesticide (Shaughnessy #127201) and is slightly more mobile in the environment than Bayleton and considerably more persistent (also shown in Table 1). Based on the relatively rapid oxidation of parent triadimefon, Baytan is the compound of potential concern.

4

HED should be contacted regarding the toxicity of Bayleton and Baytan in drinking water. Preliminary information indicates that neither Bayleton nor Baytan have significant chronic health risks in drinking water. Reference Doses (RfDs) are on the order 0.025 and 0.038 mg/kg/day, respectively (HED/Toxicology Branch RfD Tracking Report February 1989).

Application rates of the subject Specific Exemption are relatively low (maximum of 3.55 oz a.i./acre). However, up to four repeat applications per year are in the protocol. Given the degradation rates of Baytan, leaching assessments must consider close to one pound active ingredient may be applied per acre per year. Given 8 to 9 month aerobic metabolism half-lives, this application rate and schedule is unlikely to result in significant residues in soil.

The major concern for this chemical is persistence of Baytan should the compound leach below the root zone and into ground water where anaerobic half-lives are significantly greater than 8-9 months. No persistent chemical is desired outside of its target area - regardless of toxicity. As such, actions to prevent migration into less microbial active environments should be implemented for all uses (see Section 8, "Recommendations").

TABLE 1
LEACHING ASSESSMENT FOR TRIADIMEFON

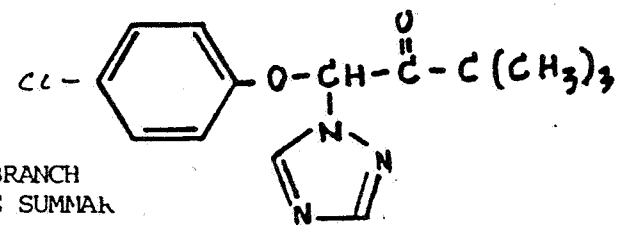
Property	Bayleton[1]	Baytan[2]	Guidelines[3]
Adsorption Partition Coefficient	3.5 - 9.3	0.5 - 3.7	<5.0, <1.0 or 2.0
Solubility (ppm)	70 @ 20° C	49 - 95° C	>30 ppm
Hydrolysis half-life	relatively stable	stable	>25 weeks
Photolysis half-life	stable soil <1 day aqueous	stable soil 36 hr aqueous	>1 week
Aerobic Soil half-life	6-18 days	8-9 months	>2-3 weeks
Anaerobic Soil half-life	15 days	>>8-9 months	>2-3 weeks

[1]EFGWB Pesticide Environmental Fate One Line Summary, 6/22/89.

[2]EFGWB Pesticide Environmental Fate One Line Summary, 1/27/84.

[3]Cohen, S.Z., S.M. Creeger, R.F. Carsel, and C.G. Enfiel, "Potential Pesticide Contamination of Groundwater from Agricultural Uses, in Treatment and Disposal of Pesticide Wastes", ACS Symposium Series #259, R.F. Krueger and J.N. Seiber, ed., American Chemical Society, Washington, D.C., 1984.

5



ENVIRONMENTAL FATE & GROUND WATER BRANCH
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMAR

Common Name: TRIADIMEFON Date: 06/22/89
Chem. Name : 1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL)-
: 2-BUTANONE
Synonym : BAYLETON; AMIRAL
Shaugh. # : 109901 CAS Number: 43121-43-3
Type Pest. : FUNGICIDE (SYSTEMIC)
Formulation: WP; EC; SUSP. CONCENTRATE; PASTE; DRY FLOWABLE
Uses : AGAINST POWDERY MILDEW AFFECTING DECIDUOUS FRUIT, CEREALS
: AND VEGETABLES; RUST DISEASES OF CEREALS, COFFEE, SEED
: GRASSES; DISEASES ON SUGARCANE,PINEAPPLE, ORNAMENTALS

Empir. Form: $C_{12}H_{14}ClN_3O_2$ VP (Torr): <E-6
Mol. Weight: 267.5 Log Kow : 2.99
Solub.(ppm): 70 @ 20 C Henry's :

Hydrolysis (161-1)
pH 5:[ ]
pH 7:[ ]
pH 9:[ ] 95% REMAINS AFTER 28 WKS
pH 3:[ ] 97% " " " "
pH 6:[ ] 95% " " " "
pH :[ ]

Photolysis (161-2, -3, -4)
Air :[ ]
Soil :[*] STABLE
Water:[ ] 10-12 HOURS
:[ ]
:[ ]
:[ ]

MOBILITY STUDIES (163-1)

Soil Partition (Kd)

	s	s	c	CEC	%OM	K
1.[ ]						
2.[ ]	46	36	18	27.6	3	9.3
3.[ ]	4	53	43	28.6	2.1	3.5
4.[ ]	92	7	1	26.6	3.7	5.9
5.[ ]						
6.[ ]						

Rf Factors

	%s,	s,	c	%OM	Rf
1.[ ]					
2.[ ]	91	1	1	0.8	0.27
3.[ ]	74	14	13	2.8	0.16
4.[ ]	56	21	23	0.6	0.20
5.[ ]	18	57	25	5.1	0.26
6.[ ]	0	41	59	0.5	0.20

METABOLISM STUDIES (162-1,2,3,4)

Aerobic Soil (162-1)

	SOIL	%s,	s,	c	%OC	T1/2
1.[ ]						
2.[ ]	SiCl	0	66	34	2.4	6 DA
3.[ ]	SL	74	16	10	17.1	18 "
4.[ ]						
5.[ ]						
6.[ ]						
7.[ ]						

Anaerobic Soil (162-2)
1.[ ] SiCl 15 DAYS (STERILE CONDITIONS INHIBIT BREAKDOWN)
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]
7.[ ]

Aerobic Aquatic (162-4)
1.[ ]
2.[ ]
3.[ ]
4.[ ]

Anaerobic Aquatic (162-3)
1.[ ]
2.[ ]
3.[ ]
4.[ ]

[*] - Acceptable Study. [#] = Supplemental Study

6

Common Name: TRIADIMEFON Date: 06/22/89

VOLATILITY STUDIES (163-2,3)

[ ] Laboratory.
[ ] Field:

DISSIPATION STUDIES (164-1,2,3,5)

Terrestrial Field (164-1)

		% s, s, c	%OM		0-6"	6-12"
1.[ ]	SOIL					
2.[ ]	FLA.SAND	88 9 3	7.6	TRIAD.	5.5 MOS.	8.7 MOS
3.[ ]				KWG	6.0 "	6.5 "
4.[ ]	CA SIL	55 35 10	0.5	TRIAD	4.5 "	17 "
5.[ ]				KWG	24 "	
6.[ ]	OR LOAM	41 45 14	4.5	TRIAD	8.0 "	23 "

Aquatic (164-2)
1.[ ]
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]

Forestry (164-3)
1.[ ]
2.[ ]

Other (164-5)
1.[ ]
2.[ ]

ACCUMULATION STUDIES (165-1,2,3,4,5)

Confined Rotational Crops (165-1)
1.[ ]
2.[ ]

Field Rotational Crops (165-2)
1.[ ] 1 YR ROTATION FOR SMALL GRAINS, BLACK-EYED PEAS.
2.[ ] 1 MONTH ROTATION FOR RADISHES.

Irrigated Crops (165-3)
1.[ ]
2.[ ]

Fish (165-4)
1.[ ] CHANNEL CATFISH, 6.5-7.6 EDIBLE
2.[ ]

Non-Target Organisms (165-5)
1.[*] CLOVER PLANTS STUNTED @ 50 PPM; NITROGEN FIXATION
2.[ ] BY CLOVER APPARENT AT 10 PPM.

Common Name: TRIADIMEFON Date: 06/22/89

VOLATILITY STUDIES (163-2,3)

[ ] Laboratory.
[ ] Field:

DISSIPATION STUDIES (164-1,2,3,5)

Terrestrial Field (164-1)

		% s, s, c	%OM		0-6"	6-12"
1.[ ]	SOIL					
2.[ ]	FLA.SAND	88 9 3	7.6	TRIAD.	5.5 MOS.	8.7 MOS
3.[ ]				KWG	6.0 "	6.5 "
4.[ ]	CA SIL	55 35 10	0.5	TRIAD	4.5 "	17 "
5.[ ]				KWG	24 "	
6.[ ]	OR LOAM	41 45 14	4.5	TRIAD	8.0 "	23 "

Aquatic (164-2)
1.[ ]
2.[ ]
3.[ ]
4.[ ]
5.[ ]
6.[ ]

Forestry (164-3)
1.[ ]
2.[ ]

Other (164-5)
1.[ ]
2.[ ]

ACCUMULATION STUDIES (165-1,2,3,4,5)

Confined Rotational Crops (165-1)
1.[ ]
2.[ ]

Field Rotational Crops (165-2)
1.[ ] 1 YR ROTATION FOR SMALL GRAINS, BLACK-EYED PEAS.
2.[ ] 1 MONTH ROTATION FOR RADISHES.

Irrigated Crops (165-3)
1.[ ]
2.[ ]

Fish (165-4)
1.[ ] CHANNEL CATFISH, 6.5-7.6 EDIBLE
2.[ ]

Non-Target Organisms (165-5)
1.[*] CLOVER PLANTS STUNTED @ 50 PPM; NITROGEN FIXATION
2.[ ] BY CLOVER APPARENT AT 10 PPM.

Common Name: TRIADIMEFON Date: 06/22/89

GROUND WATER STUDIES (158.75)

1.[ ]
2.[ ]
3.[ ]

BAYTAN

DEGRADATION PRODUCTS

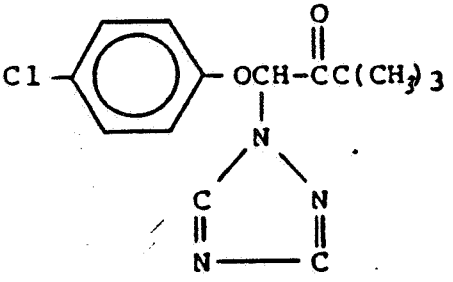
1. KWG (HALF-LIFE IN SOIL = 9-12 MONTHS)
2. TRIAZOLE
3. HYDROXY TRIAZOLE
4.
5.
6.
7.
8.
9.
10.

COMMENTS

AGED RESIDUES ARE MODERATELY MOBILE AND HAVE THE POTENTIAL TO LEACH INTO GROUND WATER.

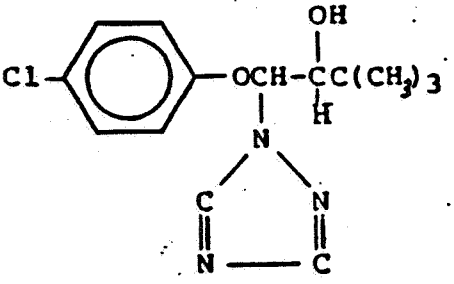
THE DEGRADATE, KWG 0519, HAS A HALF-LIFE OF 9-12 MONTHS IN SOI

References:
Writer : J. HANNAN



BAYLETON

[TRIADIMEFON]



KWG 0519

[BAYTAN]

FILE COPY Date: 1/27/84
Initials: NKW

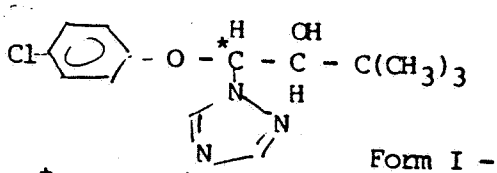
EXPOSURE ASSESSMENT BRANCH ONE LINER

EAB FILE NO: 127201

TYPE PESTICIDE: Fungicide

COMMON NAME: Baytan

STRUCTURE:



CHEMICAL NAME: 1-(4-chlorophenoxy)-3,3-dimethyl-1-(H-1,2,4-triazole-1-yl)-2-butanol

Form I - D
* asymetric carbon = Form II- L

CHEMICAL PROPERTIES:

Molecular Weight	Aqueous Solubility	Vapor Pressure
	Form I 95 ppm Form II 49 ppm	

Partition Coefficients:

Octanol/Water (K_{ow})
Form I 794
Form II 1305

Soil Adsorption

Mobility Class: 2

Soil Type:	% Soil O.M.	Coefficients K	Coefficients K_{oc}	TLC R_f
Kansas loam	3.0	5.26		
Hagerstown Silty Clay	2.1	2.37		
Florida Sand	3.7	4.05		
Kansas silty clay	0.5			0.16
Oregon sandy loam	2.3			0.58

Hydrolysis

pH	Half-Life
4.5	stable
7.1	stable
9.2	stable

Photolysis

Half-Life
Soil: stable
Water: 36 hr
photo-sensitzd: 17 hr. (acetone)

Degradation

Lab Half-Life
Soil
Aerobic: 8-9 months
Anaerobic: >>8-9 mos.
Aquatic
Aerobic:
Anaerobic:

Field Half-Life
Soil:
Aquatic:

FISH BIOACCUMULATION FACTORS

Species	Tissue: Edible	Tissue: Viscera	Whole Fish	Depuration Half-Life
	X	X	X	

FOUND IN GROUND WATER? ESTABLISHED REENTRY INTERVAL ROTATIONAL CROP RESTRICTIONS

COMMENTS: for seed treatment, field dissipation, rotational crop and fish acc. were waived.

REFERENCES: files

FILE COPY

Data Requirement	Terrestrial Satisfied	Aquatic Satisfied	Comments
HYDROLYSIS	6/22/83		
PHOTODEGRADATION			
soil	1/27/84		
water	1/27/84		
SOIL METABOLISM			
aerobic	6/22/83		
anaerobic			
LEACHING			
column	6/22/83		
batch	1/27/84		
TLC	6/22/84		
FIELD DISSIPATION			
soil			waived for seed treatment 6/22/83
water			
forest			
ROTATIONAL CROP			waived for seed treatment 6/22/83
IRRIGATED CROP			
FISH ACCUMULATION			waived for seed treatment 6/22/83
AQUATIC NON-TARGET			

BAYER

12

7

Mr. Don Stubbs
Emergency Response Section, Room 716
Registration Division (TS-767)C
U. S. Environmental Protection Agency
Crystal Mall, Building 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Dear Mr. Stubbs:

We would like to apply for a specific exemption under the provision of Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended, for the use of Bayleton 50% wettable powder (Triadimefon) on tomatoes to control powdery mildew.

Pest:	Oidiopsis taurica - imperfect stage Leveillula taurica - perfect stage
Pesticide:	Bayleton 50% wettable powder (EPA reg. no. 3125-320 or 3125-3401) (CAS no. 43121-43-3).
Crop:	Fresh market and processing tomatoes.
Rate:	2 - 5 ounces of formulation per acre or 1 - 2.5 ounces of active ingrtedient per acre.
Number and Frequency of Applications:	Up to five applications in the growing season, spaced no closer than ten days apart.
Method of Application:	Ground or air.
Dilution Rate:	Apply using a minimum of 20 gallons of water per acre.
Other Restrictions:	1. Application must be made by permit granted by the Commission prior to the use of this pesticide on tomatoes. 2. A preharvest interval of 24 hours will be observed. 3. A maximum of 700 acres of tomatoes may be treated under this exemption.
Endangered Species:	Please see letter from the U. S. FWS. Phone no. (602) 261-4720.
Effective Date:	Application may begin on June 1, 1988 and end on July 31, 1988. No application shall be made that violates the 24-hour preharvest interval.

13

Justification:

The tomatoes involved in this request are located in Yuma and La Paz Counties. No tomato crops were anticipated in Arizona after 1987, but several growers obtained excellent contracts on short notice. Also a tomato paste plant has opened up within the last year in Yuma. The tomato fields are situated just east of the California state line and are subject to the same problems experienced in the arid agricultural areas of California. Powdery mildew first appeared in California in 1978 and has grown steadily more severe since then. With the exception of the last two years this same pattern is true in the Arizona tomato fields. The 1986 crop season had very favorable weather conditions for tomato growth and harvest. The unusually low humidity, even for this arid area, greatly retarded the spread of powdery mildew in 1986. Arizona had an emergency exemption to use this product on tomatoes in the 1987 crop season, hence the excellent control reflected in the table of economic data. There is no way to predict that the favorable weather conditions of 1986 will be repeated in 1988.

Please note that the enclosed table of economic data pertains to the grower in La Paz County. Since this is the first production year for the Yuma County growers, there are no historical data available.

Bayleton has been shown to be the most effective fungicide available for control of this disease. It is superior to both sulfur and chlorothalonil. Please see the letter from Dr. Richard Hine of the University of Arizona in support of this application. I have recently discussed this situation with Dr. Hine, and he indicated that, even though this letter is a year old, it still accurately reflects the current conditions. The per-acre cost of a single application of Bayleton runs approximately $18.00.

Thank you for your consideration.

Sincerely yours,

Edwin W. Minch

Edwin W. Minch
Pesticide Specialist

Please respond to:

Edwin W. Minch
Commission of Agriculture and Horticulture
1688 West Adams
Phoenix, Arizona 85007
602-255-4373
EPX 1275 and 1276

14

AN AUTHORIZATION PERMIT FROM THE AGRICULTURE AND HORTICULTURE COMMISSION.

EMERGENCY EXEMPTION ECONOMIC DATA
(Years Refer to Harvest Date)

	1984	1985	1986	1987	1988
Acres (Include estimate for acres planted coming season)	140	160	140	140	221
Production Cost Per Acre	$1610.00	$1697.00	$1618.31	$1695.00	
Yield Per Acre	31 TONS	26 TONS	38 TONS	41 TONS	
Crop Value Per Acre	$1488.00	$1222.00	$1824.00	$2255.00	
Percentage Pest Control Using Registered Products	5%-10%	5%-10%	1%-5%	1%-5%	
Historical Losses Per Acre from This Pest(s)	7-12 tons	10-15 tons	7-10 tons	1 ton	
Estimated Dollar Losses Per Acre for the Coming Season with No Treatment for the Pest(s)					$275.00 $2255.00 per acre
Estimated Dollar Loss Per Acre for the Coming Season Using Registered Chemicals for the Pest(s)					$500.00 $2000.00
Estimated Percentage Control of the Pest(s) for the Coming Season Using Registered Chemicals					1%-5%
Estimated Dollar Loss Per Acre for the Coming Season Using the Requested Chemical for the Pest(s)					$55.00 $110.00
Estimated Percentage Control of the Pest(s) for the Coming Season Using the Requested Chemical					97%-99%

Please provide a realistic estimate of the dollar loss from the pest which growers can suffer and still show a reasonable profit:

With average production costs of $1625.00-$1700.00 dollars per acre, and average yeilds of 35 tons, we cannot afford to loose any production. We have the potential of yeilds exceeding 40 tons. In order to acheive this we need the use of this contro

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721
COLLEGE OF AGRICULTURE
DEPARTMENT OF PLANT PATHOLOGY
BUILDING #36
TELEPHONE: (602) 621-1828

February 16, 1987

Mr. Ed Minch
Arizona Commission of Agriculture
and Horticulture
1688 West Adams
Phoenix, AZ 85007

Dear Mr. Minch:

Bayleton is a systemic, highly active fungicide against the fungus that causes powdery mildew in tomato. I have worked with this fungicide and have made comparisons with sulfur and chlorothalonil. Bayleton is far superior to these two fungicides.

U.C. 82 is a tomato variety that is highly susceptible to the disease. It is my opinion that under high disease pressures, as we have in Arizona, that Bayleton is the only practical material for control.

Sincerely,

R B Hine

R. B. Hine
Professor

pz

10

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
3616 W. Thomas, Suite 6
Phoenix, Arizona 85019

2-21-88-I-96

May 5, 1988

Mr. Edwin W. Minch
Arizona Commission of Agriculture
and Horticulture
State Office Building, Room 421
1688 W. Adams
Phoenix, Arizona 85007

Dear Mr. Minch:

This responds to your request of April 27, 1988 for information on species listed or proposed to be listed as threatened or endangered that may be affected by use of the fungicide Bayleton (triadimifon) on tomato crops in the following areas of Arizona.

La Paz County
T.5 N., R.21 W. sections 9, 15, 16

Yuma County
T.7 S., R.11 W., Section 21
T.8 S., R.18 W., Sections 9,32
T.9 S., R.24 W., Section 16
T.16 S., R.22 W., Section 29

Our data indicate no listed or proposed threatened or endangered species in the area of interest would be affected by the proposed action.

If we may be of further assistance, please contact Ms. Lesley Fitzpatrick or me (Telephone 602/261-4720).

Sincerely,

Frank Baucom

Frank Baucom
Acting Fielld Supervisor

cc: Director, Arizona Game and Fish Department, Phoenix, Arizona
Regional Director, Fish and Wildlife Service, Albuquerque, New Mexico
Fish and Wildlife Enhancement

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